

# IDAHO DEPARTMENT OF FISH & GAME

Robert L. Salter, Acting Director

FEDERAL AID TO FISH AND WILDLIFE RESTORATION

Job Performance Report

Project F-71-R-4



REGIONAL FISHERY MANAGEMENT INVESTIGATIONS

Job IV-a. Region 4 Mountain Lake Investigations  
Job IV-b. Region 4 Lowland Lake Investigations  
Job IV-c. Region 4 Stream Investigations  
Job IV-d. Region 4 Technical Guidance

Period Covered: 1 January 1979 to 31 December 1979

by

Robert J. Bell  
Regional Fishery Manager

April, 1980

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## JOB PERFORMANCE REPORT

State of Idaho Name: REGIONAL FISHERY MANAGEMENT  
INVESTIGATIONS  
Project No. F-71-R-4 Title: Region 4 Mountain Lake Investi-  
Job No. IV- agations  
Period Covered: 1 January 1979 to 31 December 1979

### ABSTRACT

Time conflicts prevented any portions of this project from being under taken during 1979. Present plans are to conduct the study during the summer of 1980.

Author:

Robert J. Bell  
Regional Fishery Manager

## JOB PERFORMANCE REPORT

State of Idaho Name: REGIONAL FISHERY MANAGEMENT  
INVESTIGATIONS  
Project No. F-71-R-4  
Title: Region 4 Lowland.Lake Investi-  
Job No. IV- b gations  
Period Covered: 1 January 1979-31 December 1979

### ABSTRACT

Since 1974 approximately 6.1 million walleye fry have been stocked in Salmon Falls Creek Reservoir. Results of the walleye introductions began to show some promise during 1979 when several confirmed catches were made. Scale analysis of a 457 mm (18 in) 1 kg (2 lbs 3 oz) walleye caught by Department personnel in a gill net on May 18, 1979 showed it was roughly just over three years old.

Excellent results have been obtained from experimental plantings of chinook salmon in Salmon Falls Creek Reservoir. The fish are remaining in the reservoir showing good growth rates and contributed to as high as 50% of the creel in 1979. Chinook from fingerling plantings made in March and April of 1978 were averaging approximately 306 mm (12 in) by May of 1979. Some of them had reached 432 mm (17 in) by the fall of 1979.

Plantings of largemouth bass in Lake Walcott in recent years have not shown positive results to date.

Morgan Lake in Gooding County was found to have good populations of wild rainbow trout.

Adult carp apparently illegally stocked **in** Quigley Lake during the fall of 1978 appear to have suffered a total winterkill. No evidence of reproduction was found.

Wilson Lake suffered an extensive winterkill in 1978-1979. The kill consisted of about 70% carp. Bullhead survival was excellent.

Magic Reservoir produced excellent angling during the summer and fall

of 1979--the best since shortly after it was chemically eradicated in the

early 1960's. Unfortunately it was drawn down to minimum pool by September 14.

Author:

Robert J. Bell  
Regional Fishery Manager

## RECOMMENDATIONS

Continue investigations of the eye fluke problem on Sublett Reservoir in 1980.

Continue monitoring the walleye populations in Salmon Falls Creek Reservoir on an annual basis and continue annual stockings of walleye fry.

Make substantial plantings of fall chinook salmon fingerlings in Salmon Falls Creek Reservoir on an annual basis if the fish are available.

Make substantial supplemental plantings of catchable rainbow in Magic Reservoir during 1980.

## OBJECTIVES

To check on status of rainbow, brown and cutthroat trout populations in Sublett Reservoir.

To check on survival and growth of chinook salmon and walleye plantings in Salmon Falls Creek Reservoir and get information on various other fish species in the reservoir.

To check on survival and growth of largemouth bass plantings in Lake Walcott and continue monitoring of largemouth bass and bluegill populations in Carey Lake.

To gather information from Morgan Lake and other lowland lakes as determined necessary.

## INTRODUCTION

### Salmon Falls Creek Reservoir--Studies of Chinook Salmon, Walleye and Other Fish Species

#### Chinook Salmon

Two experimental plants of chinook salmon were made in Salmon Falls Creek Reservoir in the spring of 1978--8,000 spring chinook averaging approximately 76 mm (3 in) in total length were planted on March 24, 1978 and 102,790 fall chinook averaging 135 mm (5.3 in) in total length were planted on April 18 and 19. The fall chinook were from eggs obtained from the Spring Creek Hatchery on the



lower Columbia and hatched and raised to fingerling size at the Hagerman National Hatchery under a rearing feasibility study. The spring chinook were fish left over from a fish feed experiment at the Hagerman National Hatchery.

These were the first known plantings of chinook salmon in Salmon Falls Creek Reservoir.

### Walleye

Salmon Falls Creek Reservoir located in Twin Falls County approximately 10 miles north of Rogerson was one of the sites picked for the first experimental introduction of walleye into Idaho. It was selected because it is a "closed system" water. The reservoir was completed in 1912 and was built for irrigation water storage. A spillway was provided at the dam but it has never spilled. All irrigation water is taken from the reservoir through the Salmon River Canal system and none of this water ever reaches Salmon Falls Creek below the dam or the Snake River. A small amount of water flows into Salmon Falls Creek from spring seepage below the dam but fish do not pass through.

The first walleye fry were planted in Salmon Falls Creek Reservoir in the spring of 1974. With the exception of 1975, when no eggs or fry were available, walleye have been stocked in the impoundment on an annual basis totaling about 6.1 million fry.

The first walleye obtained from Salmon Falls Creek Reservoir were four fish gillnetted by Department fisheries research personnel in October of 1975. The fish averaged 320 mm (12.6 in) which showed an excellent growth rate when compared with walleye of other states of about the same latitude.

The first confirmed sport catch of a walleye from the reservoir was made in July of 1978. It was a 495 mm (19.5 in) fish and weighed 1.3 kg (2 lbs 15 oz). Numerous other sport catches--many unconfirmed--have been made since that time.

## TECHNIQUES USED

### Sublett Reservoir--Trout Population Studies

Creel checks were made on Sublett Reservoir by Conservation Officers and trout were checked for symptoms of eye fluke.

### Salmon Falls Creek Reservoir--Studies of Chinook Salmon, Walleye and Other Species

Creel checks were made by Conservation Officers.

Experimental monofilament gill nets 38.1 m (125 ft) in length were used to sample fish populations. Two overnight sets were made on May 26 and July 17, 1979.

### Lake Walcott Largemouth Bass Populations and Carey Lake Bass-Bluegill Populations

An area on the upper end of Lake Walcott was electrofished on August 27 using a fisheries research boat rigged for shocking.

Visual observations were made on Carey Lake to monitor bass and bluegill populations.

### Morgan Lake and Other Lake and Reservoir Studies

An overnight set with a standard experimental monofilament gill net 38.1 m (125 ft) was made in Morgan Lake the evening of February 27.

Two standard experimental gill net sets were made in Quigley Reservoir on July 19 to check primarily for carp populations.

Creel checks were made on Wilson Lake and a rough assessment of the winter-kill.

Creel checks were made on Magic Reservoir by Department personnel on opening day and periodically throughout the season.

## FINDINGS

### Sublett Reservoir--Trout Population Studies

Time conflicts prevented any studies of rainbow, cutthroat and brown trout populations in Sublett Reservoir.

Eye fluke infestation of trout in Sublett Reservoir, which was a serious

problem in 1978, was not noted during creel checks by Conservation Officers in the summer months in 1979 but a few fish with the fluke showed up during September and October. The number of infected fish did not appear to be very large.

Brown trout spawners from the reservoir were noted in 1979 for the first time in a stream--Sublett Creek-- tributary to the Reservoir. Two brown trout spawners were obtained in an electrofishing operation on October 30 near the Forest Service Campground and one other spawner was observed.

#### Salmon Falls Creek Reservoir--Studies of Chinook Salmon, Walleye and Other Species

Chinook salmon angling (from the 1978 fingerling plantings) was excellent during the first half of March on Salmon Falls Creek Reservoir. The ice had receded from the reservoir shore for about 9.1 to 30.5 m (30 to 100 ft) and the chinook appeared to be concentrated in this area. Anglers having the best success were casting lures into this stretch of open water with catch rates up to 10 fish per hour and a considerable number were getting their 25 fish limit. As the month progressed, much more of the ice cover left and the fish apparently dispersed causing angler success to drop sharply.

The chinook caught averaged between 254 and 305 mm (10 and 12 in) in total length with a few fish up to 356 mm (14 in). Two of the fish checked in March were noted to be feeding on crappie fry. The majority of the chinook were noted to be infested with copepods with as many as thirty attached to the gills of some of the fish;but despite this problem, all of them observed were in excellent body condition.

We set two experimental gill nets in Salmon Falls Creek Reservoir just before dark on May 17, 1979 and checked the nets the following morning. One net (sinker) was set in Whiskey Slough and the other (floater) was set in a cave off the west shore opposite Gray's Landing. Game fish totals caught were 29 chinook salmon, 27 rainbow trout, 1 brown trout, 1 walleye and 7 yellow

perch. Non-game fish caught totaled 58 suckers, 6 squawfish and 3 chub.

The chinook salmon (27 measured) ranged in length from 222 mm (8.75 in) to 324 mm (12.75 in) and had an average total length of 306 mm (12.04 in).

They were in good body condition with very light pink flesh. Copepods

were noted on the gills of all the chinook in varying numbers but the majority of these parasites appeared to be dead and about to slough off.

The brown trout was a 508 mm (20 in) female.

Total length of the walleye was 457 mm (18 in) and the fish weighed approximately 1 kg (2 lbs 3 oz). The fish had been feeding on small perch, crappie and other unidentifiable species. Scale analysis of this walleye showed it was just over three years old and was from the April, 1976 planting.

On the evening of July 26 we again set two gill nets in Salmon Falls Creek Reservoir in another attempt to catch walleye and chinook. The nets were set in the same locations as in May--a floater in the cove opposite Gray's Landing and a sinker in Whiskey Slough.

No walleye and only 2 chinook were caught. The chinook were 295 and 337 mm (11 5/8 and 11 3/4 in). Other game fish caught were one crappie 102 mm (4 in) in length and 7 perch.

Results of these gill nettings are summarized in Table 1. Catches of chinook salmon on Salmon Falls Creek Reservoir made up as high as 50% of the creel of game fish during periods in the summer and fall of 1979. Some of the chinook had reached a total length of 432 mm (17 in) by the fall of 1979.

#### Lake Walcott Largemouth Bass Populations and Carey Lake Bass-Bluegill Populations

No largemouth bass were known to have been caught by anglers on Lake Walcott during 1979 and plantings to date have not shown positive results. Fisheries research personnel electrofished a portion of the extreme upper end of Lake Walcott near Massacre Rocks on August 27 but did not get any bass.

Table 1. Results of two overnight gill net sets made in Salmon Falls Creek Reservoir on May 17 and July 26, 1979.

Location	Date	Type of Nets	Length of Nets	No. Rainbow Trout	No. Brown Trout	No. Chinook	Length Range Chinook	Mean Length Chinook	No. Walleye	No. Y. Perch	No. Crappie	No. Suckers	No. Squaw-fish	Chub
Cove opposite Gray's Landing & Whiskey Slough	5/18/79	1 floater & 1 sinker	38.1 m (125 ft)	27	1	29	222-324mm (8.75-12.75 in)	306 mm (12.04 in)	1	7	0	58	6	3
Cove opposite Gray's Landing & Whiskey Slough	7/27/79	1 floater & 1 sinker	38.1 m (125 ft)	18	0	2	295 & 357 mm (11.6 & 13.25 in)	316 mm (12.4 in)		7	1	69		2
TOTALS				45	1	31			1	14	1	127	6	5

They obtained 6 yellow perch, 200 shiners, 24 suckers and 6 carp.

Visual observations made by Department personnel on Carey Lake indicated fair bass and bluegill populations during the summer of 1979. Water levels in the lake got extremely low during the summer with all water essentially restricted to the channels dredged out during the 1977 drought. However, water depths in the channels were sufficient to support the fish and no fish loss was noted.

#### Morgan Lake and Other Lake and Reservoir Studies

Morgan Lake is located in Gooding County and collects most of the water emerging from Banbury Springs before it flows into the Snake River through a culvert. The lake is approximately 12 surface acres and is fed by four major and numerous minor inlet springs. It receives heavy recreation use--fishing, boating and waterfowl hunting. A Boy Scout camp is located at the lake and the area has been regularly used in recent years for environmental teachers' workshops and school conservation tours.

An overnight set with a standard length experimental gill net was made the evening of February 27. The 14 hour set resulted in a catch of five rainbow ranging in total length from 178 mm (7 in) to 324 mm (12.75 in) with an average total length of 227 mm (8.95 in) and one brown trout 305 mm (12 in) in length.

#### Quigley Reservoir

The local conservation officer found several dead carp on the shore of Quigley Reservoir just east of Hailey in late May and reported the fish had apparently winterkilled. He contacted the landowners and they claimed to have had no knowledge of carp being planted in the lake.

Apparently no water from the reservoir reaches the Big Wood River but dead-ends in fields being irrigated from it. However, it is relatively close to the Big Wood River and posed a potential problem since no carp are present in the

Big Wood River drainage above Magic Dam. Tentative plans were made to treat the reservoir with rotenone if any live carp were found in it and for this reason no catchables were stocked prior to opening day in 1979.

We set two gill nets in the Reservoir the evening of July 19. The nets were checked the morning of July 20 and no carp of any size were obtained. Totals of 79 brook trout and eight carryover hatchery catchables we caught in the two sets. The brook trout ranged in length from 156 to 324 mm (6.1 to 12.75 in) with an average length of 259 mm (10.2 in). Rainbow ranged in length from 299 to 375 mm (11.75-14.75 in) with an average length of 343 mm (13.5 in).

All indications were no live carp of any size were present in the reservoir. The water in the reservoir which has a maximum depth of about 3.7 m (12 ft) was noted to be crystal clear which further indicated no carp were present since it has a mud bottom which is easily roiled up. Apparently someone placed the five adult carp in the reservoir in the late summer or fall of 1978 and they all winterkilled. The reservoir was drawn down very low in 1978 and had a very thick ice cover from the unusually severe winter temperatures. Trout present in the reservoir must have moved upstream into Quigley Creek while the large carp could not get out of the reservoir since the water in Quigley Creek was extremely low during the winter.

#### Wilson Lake--Winterkill

An extensive winter kill occurred on Wilson Lake in Jerome County during the winter of 1978-79. The reservoir had been drawn down to an extremely low level in the fall of 1978 and had a thick ice cover during the unusually prolonged cold period.

Ice went off the lake about mid-March and thousands of dead carp, suckers and chub were noted in addition to a fairly substantial number of perch. When I checked the area on March 22, the largest number of dead fish were concentrated in the area close to the dam. A check of dead fish indicated roughly 70% of the fish killed were carp and some carp up to 6.8 kg (15 lbs) were observed.

Bullhead survival was excellent, however, and bullhead anglers had good

success during March and April. I checked one angler who caught 20 bullheads and had kept 12 which averaged about .45 kg (one lb). This is the third time since 1965 a winterkill has occurred on this impoundment.

#### Magic Reservoir--Excellent Angling

Magic Reservoir produced excellent angling during the 1979 general season--the best since shortly after it was chemically eradicated in the early 1960's.

Totals of 270 boat anglers were checked on Magic on opening day who had caught 1,095 rainbow trout in 813.5 hours of angling for an average catch rate of 1.4 trout per hour. Eighty-two bank anglers were checked who had caught 112 rainbow in 276 hours of fishing for a catch rate of 0.4 trout per hour. The combined number of boat and bank fishermen on opening day was 352 anglers with 1,207 rainbow trout in 1,089.5 angling hours for a catch rate of 1.1 trout per hour.

The trout were in excellent condition with an average total length of approximately 318 mm (12.5 in) and an average weight of about .34 kg (.75 lb). The largest trout checked on opening day was only 445 mm (17.5 in) and approximately 28.2% of the trout caught were from catchable plantings made during 1978.

Fishing was very good to excellent on Magic through September with many trout caught in the .9 kg (2 lbs) range and a few up to 1.8 kg (4 lbs).

The reservoir reached minimum pool level of about 3,000 acre feet on the evening of September 14 when the outlet gates were shut at Magic Dam and angling prospects do not look too good for 1980.



## JOB PERFORMANCE REPORT

State of Idaho Name: REGIONAL FISHERY MANAGEMENT  
INVESTIGATIONS  
Project No. F-71-R-4 Title: Region 4 Stream Investigations  
Job No. IV-c  
Period Covered: 1 January 1979 to 31 December 1979

### ABSTRACT

Portions of five Snake Plain aquifer springs—Banbury, Lower White, Bancroft, Briggs, and Blind Canyon were electrofished to obtain information on fish populations. Good to excellent populations of wild trout were found in all springs sampled and natural rainbow trout reproduction was evident in all of the springs.

Approximately 2.8 km (1.6 miles) of the Snake River below Milner Dam would be essentially dewatered by a hydroelectric project proposed by the Twin Falls and Northside Canal Companies. Department personnel conducted a two-day study of the area involved and found significant rainbow trout population. A minimum winter survival flow of 58 cfs was recommended.

Totals of 653.3 m (2,150 ft) of streams tributary to Sublett Reservoir were electrofished to assess wild rainbow, cutthroat and brown trout populations. Streams sampled were Sublett Creek, North Fork Sublett Creek, Lake Fork Creek and Fall Creek. Good natural reproduction of rainbow trout and some reproduction of brown trout was noted. It was evident there are two separate populations of trout utilizing the streams—a strictly resident stream population and a reservoir population which utilize the tributaries for spawning and rearing. Portions of the tributary streams have been seriously overgrazed and an aquatic habitat survey is being undertaken by the U.S. Forest Service in cooperation with the Department of Fish and Game.

Good populations of wild rainbow trout were obtained in electrofishing portions of Trapper and Fall Creeks in Cassia County. No cutthroat trout were

obtained in the operation.

Low flows in the Richfield Canal necessitated an early salvage operation. Totals of 1,067 kg (2,350 pounds) of rainbow trout with an average weight of .6 kg (1.3 pounds) were obtained in a two day salvage operation. Seventy-one out of 103 larger trout weighed exceeded 2.3 kg (five pounds).

An extensive fish kill occurred in the large hole in the Big Wood River below Magic Dam the last week in December from low dissolved oxygen. Low flows and an abnormally heavy fish population apparently contributed to the kill.

Author:

Robert J. Bell  
Regional Fishery Manager

## RECOMMENDATIONS

Continue monitoring of wild trout populations in selected Snake Plain aquifer springs.

Coordinate closely with the U. S. Forest Service to alleviate stream degradation from grazing on tributaries to Sublett Reservoir.

Conduct further studies on streams in Region 4 known to have significant wild rainbow and cutthroat trout populations.

Conduct annual salvages on the Richfield Canal except in years when fish populations are abnormally low.

## OBJECTIVES

To get information on fish populations from various aquifer springs entering the Snake River.

To assist in flow studies below Milner and Minidoka Dams.

To get information on brown, rainbow and cutthroat trout reproduction in tributaries to Sublett Reservoir.

To monitor the success of brown trout reproduction in the Little Wood River and evaluate success of recent fry and fingerling plantings. To get fish species populations from selected streams in the region.

## INTRODUCTION

### Aquifer Springs--Fish Population Studies

Minimum stream flow recommendations were submitted to the Water Resource Board by the Department of Fish and Game for four Snake Plain Aquifer Springs--Lower White, Bancroft, Briggs and Blind Canyon. Banbury Springs was submitted to the Water Resource Board by the Magic Valley Flyfishers.

Additional information on fish populations of the springs was collected in preparation for the instream flow hearings scheduled by the Water Resources Board after the Board submitted applications listing the flows recommended.

#### Milner Dam Flow Reduction Study

A hydroelectric facility planned by the Twin Falls and Northside Canal Companies below Milner Dam would essentially dewater approximately 2.6 km (1.6 miles) of the Snake River during the winter months. I assisted Tim Cochnauer in a two-day flow reduction study of the area on February 12 and 13. Purpose of the study was to determine if a significant trout population did exist, to determine a minimum winter survival flow for game fish populations in the river section and to determine at what flow freezing could occur. The project was originally scheduled for four days running 400, 200, 100 and 0 cfs respectively. However, unseasonal thawing and snow melt necessitated shortening this study to two days.

The project as planned by the canal companies would divert winter flows during the non-irrigation season into the Twin Falls southside canal and eventually through a generating facility at a point approximately 2.6 km (1.6 mi) downstream from Milner Dam. The water would then flow back into the Snake River. This river section presently has good flow during the winter months but is dewatered during the irrigation season by diversions at Milner Dam.

#### Sublett Reservoir--Tributary Streams Study

Sublett is the only reservoir in Region 4 where we get significant natural reproduction of trout and we are managing it as a "wild" trout fishery making only limited stockings of cutthroat and brown trout and coho salmon. The last catchable plantings were made in the reservoir in 1976.

The tributary streams to Sublett Reservoir support two distinct populations of trout--a resident stream population and a reservoir population--which utilizes the tributaries for spawning and rearing. The resident stream population is mainly rainbow trout while the reservoir population utilizing the streams consists of rainbow, brown and cutthroat trout.

Despite the successful natural reproduction in the Sublett tributaries a serious overgrazing problem has degraded portions of the streams and an

aquatic habitat survey was recently undertaken by Sawtooth Forest fishery personnel in close coordination with the Department of Fish and Game. Some fish passage problems also exist at culverts on Sublett Creek and Fall Creek and are under study.

#### Brown Trout Studies--tittle Wood River

Brown trout fingerlings were stocked in the Little Wood River and lower Silver Creek for the first time in the spring of 1970. These plantings were continued through the spring of 1974 after which we felt natural reproduction of the species would be sufficient. Angling success for the species had been excellent from 1971 through 1974 but a sharp decline in the fishery was noted after 1975. We resumed brown trout plantings in the river sections in the spring of 1978 and also made plantings in the spring of 1979 in an effort to bolster the fishery.

#### TECHNIQUES USED

##### Aquifer Springs--Fish Population Studies

A 500 watt, 230 volt D.C. shocker was used to sample portions of the five springs involved--Lower White, Bancroft, Briggs, Blind Canyon and Banbury. Total lengths were taken on all trout obtained in the surveys.

##### Milner Dam--Flow Reduction Studies

Flows were reduced to 397 cfs on February 12 and 173 cfs on the 13th. On the day prior to the study (February 11) there was a flow of 5,544 cfs. Only two flows could be evaluated since the dam gates could not be completely closed and the time required to fill Milner pool had been underestimated.

Fish populations were sampled using a 500 watt, 230 volt D.C. shocker and total lengths of rainbow trout were recorded.

Winter flow requirements were estimated by correlating data collected in a 1975 Fish and Game study with known trout habitat criteria as provided by the U. S. Fish and Wildlife Service Instream Flow group.

Unseasonably moderate weather made it impossible to assess the effects

of icing on the fisheries.

#### Sublett Reservoir--Tributary Streams Study

Stream sections were sampled using a 500 watt, 230 volt D.C. shocker. Total lengths were taken on all trout obtained in the operation.

#### Brown Trout Studies--Little Wood River

A 500 watt D.C. shocker was used to sample portions of the Little Wood River and total lengths were taken on all trout obtained.

#### Trapper and Fall Creek--Fish Population Studies

Fish populations were sampled with a 500 watt, 230 volt D.C. shocker and total lengths were taken on all trout obtained.

#### Richfield Canal and Big Wood River below Magic Dam--Salvage and Fish Studies

Fish populations were sampled in the Richfield Canal using a 500 watt, 230 volt shocker. A 2500 watt, 230 volt shocker was used in the salvage of the canal. Three electrodes--two cathodes and one anode floated on inner tubes--were used in the salvage operation.

### FINDINGS

#### Aquifer Springs--Fish Population Studies

Portions of Banbury Springs, Lower White Springs, Bancroft Springs, Briggs Springs and Blind Canyon Springs were sampled in late February 1979 with electro-fishing gear for fish population information.

#### Banbury Springs

Banbury Springs, one of the Snake Plain aquifer outlets, is located in Gooding County approximately 7 miles northwest of Buhl at Snake River mile 589.4. The springs emerge on the east side of the Snake River from numerous openings along a section approximately 305 m (1,000 ft) in length from the basalt in the talus slope at the base of the canyon wall. Discharge at the springs averages over 100 cfs. There are four major and many minor inlet springs which flow into a lake (Morgan Lake) of approximately 12 surface acres (4.9 ha) which outlets through a culvert into the Snake River.

On February 26, 1979 sampling was undertaken at Banbury Springs. We electro-fished the area immediately below the outlet culvert of Morgan Lake where it enters the Snake River and also portions of four springs flowing

into Morgan Lake. Approximately 6.1 m (20 feet) was electrofished directly below the culvert outlet and we obtained 9 wild rainbow and one hatchery rainbow. The wild rainbow ranged in length from 191 to 299 mm (7.5 to 11.75 inches) with an average length of 239 mm (9.4 inches). Four inlet springs to Morgan Lake were electrofished and 39 rainbow ranging in total (1.8 to 11 in) length from 45 to 279 mm /with an average length of 117 mm (4.6 inches) were obtained. An additional 21 rainbow trout were turned over in the streams with the electrofishing gear but missed. Roughly 31% (12 of 39) of the trout obtained from the inlet streams to the lake were young-of-the-year or yearling fish 89 mm (3.5 inches) or under indicating very good natural reproduction. Table 1 summarizes the results of our electrofishing.

A substantial amount of suitable spawning gravel was noted in each of the springs sampled. The water temperature of the springs was 13.3°C (56°F).

Table 1. Results of electrofishing on February 26, 1979, of approximately 83.9 m (275 ft) of four major forks of Banbury Springs flowing into Morgan Lake.

Location	Stream Length Electrofished	No. Wild Rainbow	Range in Total Length	Mean Total Length	Trout Turned Over But Missed
North Spring	22.9 m (75 ft)	20	45-191 mm (1.75-7.5 in)	103 mm (4 in)	8
Middle Spring	15.2 m (50	5	76-279 mm (3.0-11.0 in)	169 mm (6.7 in)	5
South Middle Spring	22.9 m (75 ft)	9	45-133 mm (1.75-5.25 in)	91 mm (3.6	4
South Spring	22.9 m (75 ft)	5	108-241 mm (4.25-9.5 in)	169 mm (6.7 in)	4
Totals	275	39			21

Range in total length of wild rainbow 45-279 mm (1.8-11 in).

Mean total length of wild rainbow 117 mm (4.6 in).



### Lower White Springs

Lower White Springs is located in Gooding County and flows into the Snake River from the east approximately 1 km (.6 mile) below Lower Salmon Falls Dam at Snake River mile 572.5. The spring flows from a basalt bluff for a distance of approximately 50 m (164 ft) from its origin to the Snake River.

We electrofished approximately 30.5 m (100 ft) of the outlet stream on February 26, 1979. Totals of nine wild rainbow trout ranging in total length from 45 mm (1.75 in) to 203 mm (8.0 in) with an average length of 131 mm (4.9 in) were obtained. One hatchery rainbow 191 mm (7.5 in) was obtained and 5 or 6 additional trout were turned over with the shocker but escaped. Three of the wild rainbow trout obtained in the operation were fry or young-of-the-year fish with respective total lengths of 45, 89 and 76 mm (1.75, 3.0 and 3.5 in) indicating successful natural reproduction of this species.

An angler fishing just off the mouth of the spring while we were electrofishing caught a .2 kg (one-half pound) smallmouth bass.

The stream was noted to contain some high quality though limited spawning gravel. Department of Fish and Game personnel observed two spawning rainbow trout in the stream on May 1 and six on May 2, 1979. One female rainbow approximately 457 mm (18 in) in length was observed on a redd in the area on May 1 and 2.

I returned to the spring on May 3 to check on spawning trout. Two anglers were fishing just off the mouth of the spring and had caught a rainbow trout approximately 445 mm (17.5 in) in length and a smallmouth bass about 280 mm (11 in) in roughly one hour of angling.

### Bancroft Springs

Bancroft Springs is located in Elmore County approximately 8.9 km (5.5 miles) southeast of King Hill and is the farthest downstream Snake Plain aquifer spring emerging from the Snake River canyon walls. It outlets on the east

side of the Snake River at river mile 552.8. The springs flow from basalt in several openings near the river's edge and enter the Snake River in four short channels. The main outlet channel flows from its origin for approximately 30.5 m (100 ft) into the river. Some flow through the rocks is unmeasurable but the estimated average discharge of Bancroft Springs is approximately 17.0 cfs. Though relatively small the springs provide good rainbow trout spawning and rearing habitat for wild trout and are also utilized by hatchery rainbow which migrate up from the Snake River.

We electrofished approximately 24.4 m (80 ft) of stream at the springs on March 6, 1979. Totals of 14 wild rainbow ranging in total length from 32 mm (1.25 in) to 343 mm (13.5 in) with an average total length of 160 mm (6.3 in) and 3 hatchery rainbow with an average total length of 292 mm (11.5 in) were obtained. An additional 8 to 10 trout were turned over with the shocker but escaped.

Water temperature of the spring was 15.6°C (60°F). It was interesting to note on this short run spring hatchery rainbow are able to negotiate a very steep gradient all the way to the spring head. Their movement, however, may be somewhat aided by high flows in the Snake River during some periods.

#### Briggs Springs

Briggs Springs is a Snake Plain aquifer spring located in Gooding County approximately 9.7 km (6 miles) northwest of Buhl and enters the Snake River at river mile 590.6. The springs emerge on the east bank of the Snake River and flow for approximately 1.5 km (0.8 mile) from their origin to the river.

The stream provides high quality rainbow trout spawning and rearing habitat. Many anglers fish the spring at the mouth where it enters the Snake River, often with excellent success. Waterfowl also use portions of the springs heavily--especially the lower end.

We electrofished a short section of about 15.2 m (50 ft) of the spring on March 6, 1979. Totals of six wild rainbow ranging in total length from 70 mm

(2.75 in) to 159 mm (6.25 in) with an average length of 107 mm (4.2 in) and one hatchery rainbow (305 mm) were obtained. An additional 3 or 4 trout were turned over with the shocker but escaped.

The water temperature of the spring was 14.5°C (58°F).

#### Blind Canyon Springs

Blind Canyon Springs are located in Gooding County approximately 8 miles northwest of Buhl and enter the Snake River at river mile 588.5. The springs emerge on the east shore of the Snake River and flow from basalt through talus along the walls of an alcove canyon. They flow into one channel approximately .8 km (one-half mile) to the Snake River. During much of the irrigation season, wastewater flowing over the rimrock enters the springs area. The springs have an average flow (adjusted for surface inflow) of approximately 10 cfs.

A private fish hatchery is located on Blind Canyon Springs.

We electrofished approximately 30.5 m (100 ft) of the main outlet channel from the spring on February 26, 1979 and obtained 9 wild rainbow ranging in total length from 76 mm (3.0 in) to 241 mm (9.5 in) with an average length of 165 mm (6.5 in) and 16 hatchery rainbow ranging in length from 159 mm (6.25 in) to 286 mm (11.25 in) with an average length of 246 mm (9.67 in). An additional 10-20 trout were turned over with the shocker but escaped.

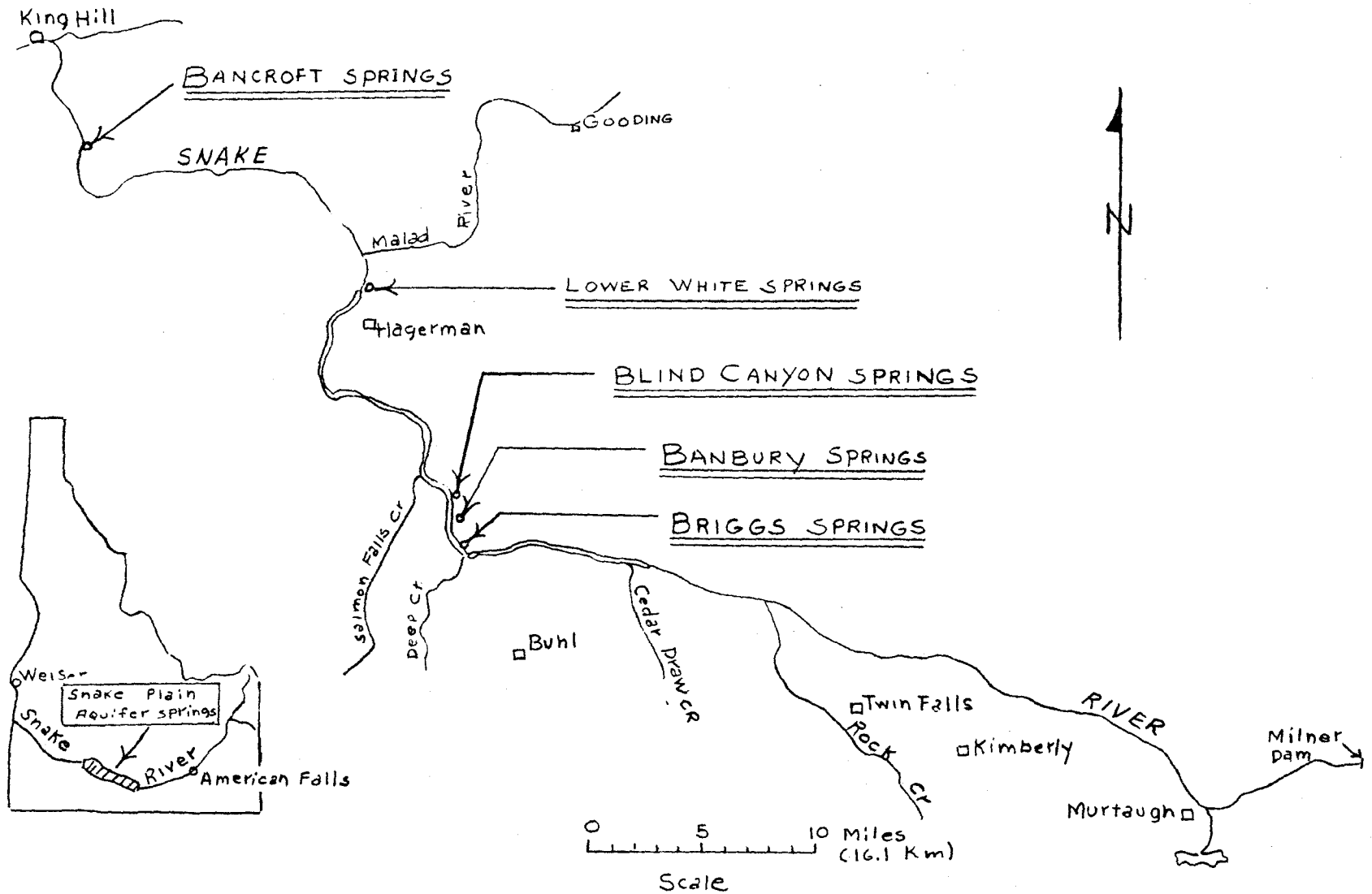


Figure 1. Map showing general location of five Snake Plain aquifer springs involved in study (Bancroft, Lower White, Blind Canyon, Banbury and Briggs).

#### Milner Dam Flow Reduction Study

We electrofished the river a short distance below the dam on February 13 but found the area extremely difficult to work due to high turbidity of the Snake River and the limited number of shallow areas. Totals of 11 game fish were obtained--5 rainbow trout ranging in length from 406 to 457 mm (16-18 in) and 6 whitefish with an average length of about 343 mm (13.5 in). All of the rainbow trout were wild fish and in excellent body condition and one ripe 457 mm (18 in) male was noted. We also obtained five suckers and an undetermined number of redbreasted shiners.

Tim Cochnauer estimates a minimum winter survival flow of 58 cfs would be necessary to maintain good trout habitat in the study section.

The game fish populations in this river section essentially move out during the irrigation season when only seepage passes through the dam but move back in with the return of sufficient flows. According to local anglers, the best angling water in this river section is actually downstream from the proposed generator. One positive point of the project is it would probably guarantee flows downstream from the generating facility throughout the winter months whereas some other plans such as diverting the water at Milner Dam to downstream impoundment areas near Grindstone Butte would probably provide for no downstream flows. Also the state water plan presently recommends zero flow past Milner Dam.

#### Sublett Reservoir--Tributary Stream Studies

On May 7, 1979, Dan Poppleton and I electrofished approximately 289.6 m (950 ft) of spring fed streams tributary to Sublett Reservoir in Cassia County--Fall Creek, Lake Fork Creek and Sublett Creek. We obtained a total of 155 rainbow and four brown trout and missed about 83 trout for an estimated total of 242 trout or roughly 25.5 trout per 30.5 m (100 ft) of stream shocked. Trout spawning appeared to be mostly over and we observed at least 50 fresh

redds in the streams. Quite a number of spawned out males and ripe females were obtained. The large number of fry and young-of-the-year trout indicates good natural reproduction in all three streams sampled. No cutthroat trout were obtained in this operation. Our May electrofishing results are summarized in Table 2.

On October 30 Sawtooth Forest personnel and I electrofished approximately 365.8 m (1200 ft) of streams tributary to Sublett Reservoir to further assess rainbow, cutthroat and brown trout populations and to determine if brown trout from Sublett Reservoir were utilizing these streams for spawning. We shocked about 121.9 m (400 ft) of Sublett Creek, 61 m (200 ft) of the North Fork of Sublett Creek, 121.9 m (400 ft) of Lake Fork Creek and 61 m (200 ft) of Fall Creek. Totals of 444 rainbow, 11 browns and 2 cutthroat trout were obtained. Due to the extremely profuse aquatic vegetation it was impossible to estimate the number of trout missed. Not counting the trout missed, we obtained roughly 38 trout per 30.5 m (100 ft) of stream shocked.

Two brown trout spawners were obtained in Sublett Creek near the Forest Service campground. One of these fish was a ripe male 492 mm (19 3/8 in) in total length and the other a female 454 mm (17 5/8 in) in total length which appeared to be about two weeks away from spawning. One other brown trout of about the same length and probably a spawner was turned over in the same area but escaped. Four young-of-the-year brown were obtained in Sublett Creek and one in Lake Fork Creek.

Only two cutthroat trout were obtained in the electrofishing, 184 and 210 mm (7 1/4 and 8 1/4 in)--both out of Lake Fork Creek.

Rainbow in Lake Fork Creek were noted to be in superb body condition.

Table 3 summarizes our October electrofishing results.

#### Brown Trout Studies--Little Wood River

On August 7, 1979, we electrofished approximately 243.8 m (800 ft) of the Little Wood River. We shocked approximately 121.9 m (400 ft) just below

Table 2. Results of electrofishing portions of Fall Creek, Lake Fork Creek and Sublett Creek, Cassia County, on May 7, 1979.

Stream	Length of Stream Shocked	No. Rb Obtained	Est. No. Rb Missed	Length Range Rb	Mean Length Rb	No. Rb Redds Observed	No. Ripe Rb Females Obs.	No. Ripe Rb Males Obs.	No. Brown Trout Obt.	Est. No. Brown Trout Missed	Length Range Brown	Mean Length Brown
Fall Creek	60.1 m (200 ft)	29	10	79-311mm (3.1- 12.3 in)	150 mm (5.9 in)	5	1	2	0	0	-	-
Lake Fork Cr.	106.7 m (350 ft)	45	26	67-337mm (2.6- 13.3 in)	159 mm (6.2 in)	20	3	2	1	0	305 mm (12 in)	-
Sublett Cr.	121.9 m (400 ft)	81	47	64-362mm (2.5- 14.3 in)	166 mm (6.5 in)	25	5	7	3	0	203-279mm (8-11 in)	224 mm (8.8 in)
TOTALS	289.6 m (950 ft)	155	83			50	9	11	4	0		

Table 3. Results of electrofishing portions of Sublett Creek, North Fork of Sublett Creek, Lake Fork Creek and Fall Creek on October 30, 1979.

Stream	Length of Stream Shocked	Water Temp.	No. Rb Trout	Length Range Rb Trout	Mean Length Rb Trout	No. Brown Trout	Length Range Brn Trout	Mean Length Brn Trout	No. CT Trout	Length Range CT
Sublett Creek	121.9 m (400 ft)	7.8°C (46°F)	109	45-241 mm (1.8-9.5 in)	107 mm (4.2 in)	10	108-492mm (4.3-19.4)	241 mm (9.5 in)		
North Fork Sublett Creek	61 m (200 ft)	7.8°C (46°F)	54	51-89 mm (2-3.5 in)	69 mm (2.7 in)					
Lake Fork Creek below mouth Fall Cr.	121.9 m (400 ft)	7.8°C (46°F)	157	38-308 mm (1.5-12.1)	91 mm (3.6 in)	1	121 mm (4.75 in)	121 mm (4.75 in)	2	184 & 210 mm (7.25 & 8.25 in)
Fall Cr. below the falls	61 m (200 ft)	8.9°C	124	51-229 mm (2-9 in)	68 mm (2.7 in)					
Totals	366 m (1200 ft)		444			11			2	



the fly-only area and an equal length within the Faulkner property. Totals of 53 browns and 3 rainbow trout were obtained. Over half of the brown trout obtained were young-of-the-year and approximately half of these fish were from the hatchery fry plantings made in the spring. The larger size of the hatchery fingerlings made them easily distinguishable. Brown trout obtained ranged in total length from 57 to 508 mm (2.25 to 20 in) with an average length of 136 mm (5.4 in). Rainbow obtained were 152, 184 and 207 mm (6, 7.25 & 8.1 in) in total length.

A definite increase in numbers of younger age class browns in the creel has been noted and present plans are to continue the spring fingerling plantings for at least three more years.

#### Trapper and Fall Creeks--Fish Population Studies

Forest Service personnel assisted me on June 25, 1979, to assess fish populations. We electrofished approximately 70.1 m (230 ft) of Trapper Creek near the mouth of Little Cottonwood Creek, 9.1 m (30 ft) below the culvert crossing just above the mouth of Fall Creek and 60.1 m (200 ft) of Fall Creek approximately one-half mile below the mouth of Badger Gulch. No cutthroat trout were obtained in the electrofishing but one 356 mm (14 in) was observed in Fall Creek. Table 4 summarizes the results of the electrofishing.

#### Richfield Canal and Big Wood River below Magic Dam--Salvage and Fish Studies

Magic Reservoir was drawn down to minimum pool (about 3,000 acre feet) on the evening of September 14 and the outlet gates were shut at Magic Dam. The word we received was all the water flow remaining in the river, from seep and springs below the dam, was being diverted down the Richfield Canal. All reports indicated trout in the canal were doing fine until a local sportsman (Clair Ricketts) reported fish in distress in the canal on September 19. I contacted various persons on the matter including the man who manipulates the gates at the Richfield Diversion (Herb Mingo). Apparently the gates at the upper end of the canal at the diversion which leads back into the Big Wood River malfunctioned

Table 4. Results of electrofishing portions of Trapper and Fall Creeks, Cassia County, on June 25, 1979.

Stream	Length of Stream Shocked	Hatch. Rb	Wild Rb	Length Range Wild Trout	Mean Length Wild Trout	Est. No. Trout Missed	Dace	Sucker	Sculpin
Trapper Cr. near mouth of Little Cottonwood Cr.	70.1 m (230 ft)	3	6	114-190 mm (4.5-7.5 in)	155 mm (6.1 in)	4	8	1	11
Trapper Cr. 9.1 m below culvert (30 ft) crossing above mouth Fall Cr.		5	10	82-165 mm (3.25-6.5 in)	109 mm (4.3 in)	6			
Fall Creek 0.5 mi. below mouth of Badger Gulch	61 m (200 ft)		44	32-273 mm (1.25- 10.75 in)	170 mm (6.7 in)	30			
Totals	140.2 m (460 ft)	8	60			40	8	1	11

when Mr. Mingo attempted to close them the night of September 14. Mr. Mingo was unable to get the gates completely closed and apparently seriously injured his arm in the process. As a result of the very low flows in the canal, all the water was passing through the partially open gates from the canal and back into the Big Wood River and no flow was going on down the canal. I went to the canal the morning of September 20 and found the gates had just been repaired and although there was still considerable leakage some water was flowing down the canal. Numerous dead trout were observed, however, and the dissolved oxygen was only 3.4 mg/l at 10 a.m. at the bridge just below the diversion site. The water temperature was 14.4°C (58°F). Large numbers of live trout were observed rolling in holes between the diversion and the highway bridge. Water was flowing in only the extreme upper end of the canal and had reached about one-third of the way to the highway bridge. I took dissolved oxygen readings just below the bridge and got only 3 mg/l. A number of large trout were noted in distress at the site.

I returned to the canal the following afternoon accompanied by a local sportsman (Clair Ricketts) to check on conditions and attempt to seal off the leaking gates. I took a dissolved oxygen reading and found it had increased to 9 mg/l at the upper end of the canal. We worked with waders for approximately two hours sealing off the leaks through the gates with plastic bags, some of which we filled with dirt, and were able to get at least an additional one-half cfs going down the canal. I also cleared out a channel in the canal just below the diversion gates to allow freer passage of water. We electro-fished several shallow holes and found no live fish but got fish up to five pounds in some of the deeper holes. When we left the area at about 8 p.m., the water had reached the highway bridge and by September 23 it had reached a point about 1.9 miles downstream from the highway bridge.

We started a salvage operation on the canal on the morning of September 25. A coil malfunction in the shocker delayed the start of the operation, but we got it repaired and began salvaging at 10:45 a.m. A heavy rainstorm forced us to terminate the operation at 6 p.m. but we reached the highway bridge. Approximately 453.6 kg (1,000 pounds) of rainbow trout were salvaged in the first day's operation with the largest trout just over 2.3 kg (five pounds).

The following day (26th) we salvaged from the highway bridge to the end of the canal and obtained approximately 612.4 kg (1,350 pounds) for a total of 1,065.9 kg (2,350 pounds) in the two day operation. The average weight of the trout was about .6 kg (1.3 pounds). One hundred three trout ranging in length from 445 to 635 mm (17.5 to 25 in) were weighed and their weights ranged from 1.4 to 4 kg (3 to 8 3/4 pounds) with the average weight of about 2.5 kg (5.4 pounds). Seventy-one out of the 103 trout weighed were 2.3 kg (five pounds) or over and 40 of the 103 trout were 2.7 kg (six pounds) and over. The largest trout we obtained was a 635 mm (25 in) fish which weighed 4 kg (8 3/4 pounds). The second largest fish weighed was 622 mm (24.5 in) in total length and weighed 3.7 kg (8.4 pounds). The heaviest rainbow trout per total length was a 508 mm (20 inch) fish which weighed 2.9 kg (6½ pounds).

Approximately half of the trout salvaged were planted in Magic Reservoir at the West Side Landing, one-fourth in the Big Wood River in the Hailey-Ketchum area and one-fourth in Silver Creek at the Department of Fish and Game's public access sites.

I returned to the Richfield Canal September 29 to check on flow, water temperature and dissolved oxygen. The water had traveled another 1.9 km (1.2 miles) in the canal since termination of the salvage operation and had reached a point about 7.2 km (4.5 miles) downstream from the highway bridge. It appeared to be averaging approximately .5 km (.3 mile) per day.

The water temperature was 12.8°C (55°F) and the dissolved oxygen 12 mg/l in the last flowing portion of the canal at 10 a.m. I got a reading of 7 mg/l in the first hole with no flowing water and a temperature of 14.4°C (58°F). A shallow hole 8.5 km (5.1 miles) downstream from the highway bridge had 8 mg/l oxygen and was 15°C (59°F). Large, live trout were observed rolling in some of the deeper holes.

On October 5 I returned to the canal and found water flows had sharply decreased with very little water flowing past the highway bridge. Dissolved oxygen at a point 2.4 km (1.5 miles) downstream from the highway bridge was 8 mg/l and the water temperature was 14°C (58°F). Water was flowing for a distance of only about 1.9 km (1.2 miles) below the highway bridge. I checked the deep hole at the extreme lower end of the canal and got a reading of 13 mg/l and a water temperature of 15°C (59°F).

The following day (October 6) I returned to the canal to check on flows at the diversion. The inflow into the canal was down considerably indicating Big Wood River flows had dropped. I worked for about three hours again sealing off the diversion gate leading back into the Big Wood River and got almost 100% of the flow going down the canal again.

Stock water was run down the canal for a week period about the middle of October and again in late November considerably improving conditions.

1979 was the first year since 1971 Richfield Canal produced its former "trophy" size trout and it was very encouraging. Local anglers caught large numbers of rainbow trout exceeding 2.3 kg (five pounds) and some over 3.6 kg (8 pounds) during the spring and summer of 1979. I believe the total (or almost total) loss of trout during the 1977 drouth was a major factor in the increased size of the trout in 1979 and plan to salvage the trout on a nearly annual basis to thin out the fish.

Late in the afternoon of December 29 a call was received from Herb

Mingo, caretaker at Magic Dam, regarding an extensive fish kill in the deep hole directly below the dam. I went to the site on December 30 accompanied by another Department employee (Gordon Bunch) to investigate the problem. Mr. Mingo stated he first noted the kill at about noon on December 29. About the only open water in the large hole below the dam was an area roughly 9.1 m (30 ft) in diameter at the spring outlet on the east side of the dam. The open water was full of several thousand dead and dying fish--trout, perch, shiners and suckers. I took a dissolved oxygen reading at the spring outlet when we arrived and got approximately 5 mg/l. About half an hour later we noted many more fish had moved into the open water area and found the dissolved oxygen had dropped to 2 mg/l. I took an oxygen reading in the main hole at a small patch of open water near the shore and got only 0.6 mg/l. Oxygen in the spring above the open water hole was 5.5 mg/l. Many trout were noted dead in the open water portion with some in the 2.7 to 3.6 kg (six to eight pound) range. Due to lack of much snow cover, large numbers of dead trout could be seen through the relatively thin ice of about 51 to 152 mm (2 to 6 inches) in the main hole. Apparently the large mass of fish was concentrating at the spring outlet due to the high oxygen content. This is the only winterkill which has occurred in this hole below the dam since I came into this area in 1965. There was no winterkill even during the 1977 drought during which spring inflow was even less and the ice considerably thicker. All indications were fish density in the hole was much greater than normal in 1979. As mentioned, two runs of stock water were made--one in late September and the other in late November. Normally only one run of stock water is made, usually in late October or the first week in November. The operator (Mr. Mingo) reported unusually large numbers of fish passed from the reservoir into the hole during the late November run. The low flows combined with the abnormal numbers of fish apparently caused the winterkill.

I took a dissolved oxygen reading the same day at the head of the Richfield Canal diversion (December 29) and got 6 mg/l.

## JOB PERFORMANCE REPORT

State of State Name: REGIONAL FISHERY MANAGEMENT  
INVESTIGATIONS

Project No. F-71-R-4

Title: Region 4 Technical Guidance

Job No. IV-d

Period Covered: 1 January 1979 to 31 December 1979

### ABSTRACT

Totals of 167 requests for comments by other agencies or organizations were processed in Region 4 during 1979. Comments were provided to the Environmental Protection Agency, Bureau of Land Management, U. S. Army Corps of Engineers, U. S. Forest Service, U. S. Fish and Wildlife Service, U. S. Soil Conservation Service, Water and Power Resources Service, State Clearinghouse and the State Departments of Water Resources and Public Lands.

Sixty-eight stream channel alteration permits were processed, reviewed or inspected in the region. Approximately 41.2 percent of these permits (28) were for the Big Wood River and tributaries and 44.1 percent (30) for the Main Snake River and its tributary streams.

Numerous miscellaneous items or activities were commented on or participated in.

Author:

Robert J. Bell  
Regional Fishery Manager



## RECOMMENDATIONS

Technical guidance and assistance pertaining or relating to the fishery resources of Region 4 should be continued on an annual basis.

## OBJECTIVES

To furnish technical assistance, advice and comments to other agencies, organizations or individuals regarding any items, projects or activities associated with or which have an impact on the fishery resource or aquatic habitat of the region.

To comment on environmental impact statements, environmental analysis reports, discharge permits or similar items. To participate in the Department of Fish and Game's fish and wildlife resource planning.

## TECHNIQUES USED

Reviews, field inspections where necessary, comments, expertise, advice and recommendations were furnished upon request to all governmental, private organizations and individuals.

Numerous meetings were attended as necessary.

## FINDINGS

A total of 167 requests for comments by other agencies were processed in 1979. These are listed below.

Department of Water Resources	104
Environmental Protection Agency	5
State Clearinghouse	14
Bureau of Land Management	6
Army Corps of Engineers	7
U.S. Forest Service	6
U.S. Fish and Wildlife Service	4
U.S. Soil Conservation Service	2
Water and Power Resources Service	2
State Department of Public Lands	10
Miscellaneous	7

### Stream Channel Alterations

A total of 68 stream channel alteration applications were processed, reviewed or inspected in Region 4 during 1979. These are summarized by drainage below.

#### Big Wood River Drainage

Twenty-eight--12 on Department of Water Resources' Minimum Standards.

#### Main Snake River and Tributaries

Thirty--7 under Department of Water Resources' Minimum Standards.

#### South Fork Boise River

Two permits.

#### Raft River

Seven permits--2 under Department of Water Resources' Minimum Standards.

#### Salmon Falls Creek

One permit.

Thirty-nine applications for a permit to appropriate public waters for the State of Idaho were processed--36 for the Snake River Drainages and 2 for the Big Wood River Drainage.

### Miscellaneous Activities

Following are listed some of the miscellaneous activities I participated in during 1979.

Met with and coordinated results with U.S. Forest Service personnel over the high mountain lakes study on Trinity Mountain.

Commented on Environmental Impact Statement for Salmon Falls Creek project; environmental statements for Corps of Engineers regarding flood damage reduction on the Little Wood River and Shoshone Grazing; B.L.M. E.A.R. for Morris Mitchell proposed diversion on Cold Creek; U.S. Desert Trail proposal; Sawtooth National Recreation Area Aquatic Habitat Action Program Draft; and Idaho Forest Practices Water Quality Management Plan.

Attended Silver Creek instream flow hearing in Hailey on January 11.

Met with Sawtooth Forest personnel several times regarding proposed Featherville-Rocky Bar road improvement project and participated in a field inspection regarding a portion of it.

Prepared information and statements for presentation at hearings conducted by the Water Resource Board regarding requested minimum flows on Vinyard Creek, Banbury Springs, Bancroft Springs, Lower White Springs, Blind Canyon Springs, and Briggs Springs. I testified on behalf of the Department of Fish and Game at hearings conducted for each of the springs.

Compiled schedules for 1979 fingerling and catchable rainbow plants in Region 4 after meeting and conferring with hatchery superintendents involved.

Spent considerable time discussing Anderson Ranch Reservoir problems with U.S. Fish and Wildlife and Water and Power Resources personnel and attended a workshop in Boise regarding the matter.

Conferred and met with numerous individuals over problems associated with fish passage problems at large culverts which were installed on Rock Creek at the Pole Line Bridge Crossing.

Compiled list of all 1979 high mountain lakes helicopter and non-helicopter plantings.

Discussed and commented on problems associated with renewal of Idaho Power Company's Malad Power Plant.

Cooperated with University of Idaho personnel over flow study being conducted at Minidoka Dam.

Discussed and coordinated hatchery plantings being made in Region 4 waters by the College of Southern Idaho's fish hatchery.

Testified in Buhl on April 24 at a hearing over a commercial fish rearing facility planned on Lower Billingsley Creek.

Spent considerable time inspecting numerous commercial fish facilities and discussing problems such as proper fish passage and screening with the owners involved.

Reviewed and commented on numerous private pond permits.

Attended numerous public and interagency meetings regarding fisheries and wildlife and/or projects having a potential effect on these resources.

Floated through proposed Wiley Impoundment Area on May 1 with personnel from Idaho Power Company, EDAW and BEAK consulting firms, State Parks Department and the BLM.

Wrote and submitted article on walleye for the Idaho Wildlife magazine.

Participated in an all day tour of Billingsley Creek and hatcheries in the Hagerman valley area with members of the 208 committee and subcommittee, Department of Health and Welfare personnel, Clear Springs Trout Company personnel, Northside Canal personnel and concerned citizens.

Took 14 graduate hydrology students and their instructor from the University of Montana on an all day tour of the major Snake Plain aquifer springs in the Hagerman area.

Participated in an all day tour on June 14 of silt abatement structures on the LQ Drain near Filer sponsored by the Kimberly Research Station and the University of Idaho.

Summarized and presented recommended fishery regulation changes for 1980.

Prepared a list of streams in Region 4 by drainage in regard to the use of recreational suction dredges.

Participated in an all day tour of fish facilities and processing plants, etc. in the Hagerman Valley area sponsored by the Idaho Trout Growers' Industry. A number of legislators participated in the tour.

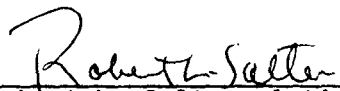
Participated in a tour of the trespass problem (on BLM land) of the Roscoe Ward property on the Raft River.


Submitted by:


Robert J. Bell  
Regional Fishery Manager

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME

  
Robert L. Salter, Acting Director

  
Stacy Gebhards, Chief  
Bureau of Fisheries

  
Jerry Mallet  
Fishery Research Supervisor  
Bureau of Fisheries